

Appl. No. 09/127,644
Amdt. dated February 16, 2005
Reply to Decision on Appeal of September 27, 2004

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

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Please cancel claims 1-22.

1 23. (New) A magnetically journalled rotational arrangement comprising a
2 substantially disc-shaped or ring-shaped magnetically journalled rotor and
3 a stator comprising:
4 means for generating a field, wherein said field produces rotation of the
5 rotor having means for generating a unipolar bias magnetic flux spatially modulated when
6 viewed in the circumferential direction; and
7 a plurality of permanent magnets arranged to cooperate with the means
8 provided on the rotor generating the spatially modulated bias magnetic flux and producing or
9 reinforcing the magnetic journalling of the rotor,
10 wherein the stator effecting the magnetic journalling of the rotor surrounds
11 the ring or disc-shaped rotor,
12 wherein the stator plane and the rotor plane coincide and from a bearing
13 plane, and
14 wherein the means for generating the field are arranged in the segments
15 between the permanent magnets in the stator so that the motor plane in which the rotation of the
16 rotor is produced and the bearing plane in which the journalling of the rotor is produced
17 coincide.

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1 24. (New) A rotational arrangement in accordance with claim 23 wherein the
2 means for the production of the field which effects the rotation of the rotor and which is arranged
3 in the segments between the permanent magnets has U-shaped coil cores with windings, with the
4 U-shaped coil cores being arranged in the bearing plane.

1 25. (New) A rotational arrangement in accordance with claim 23 wherein the
2 means for the production of the field which effects the rotation of the rotor and which is arranged
3 in the segments between the permanent magnets has U-shaped coil cores with windings, with the
4 U-shaped coil cores being arranged perpendicular to the bearing plane.

1 26. (New) A rotational arrangement in accordance with claim 23 wherein the
2 permanent magnets are arranged at both sides of the disc-shaped or ring-shaped rotor.

1 27. (New) A rotational arrangement in accordance with claim 23 wherein the
2 permanent magnets have an axial or a radial magnetization.

1 28. (New) A rotational arrangement in accordance with claim 23 wherein
2 permanent magnets are provided both on the rotor and on the stator; and wherein both the
3 permanent magnets provided on the rotor and the permanent magnets arranged on the stator are
4 magnetized in the axial direction.

1 29. (New) A rotational arrangement in accordance with claim 23 wherein
2 permanent magnets are provided both on the rotor and on the stator; and wherein both the
3 permanent magnets provided on the rotor and the permanent magnets arranged on the stator are
4 magnetized in the radial direction.

1 30. (New) A rotational arrangement in accordance with claim 23 wherein
2 permanent magnets are provided both on the rotor and on the stator; and wherein the permanent
3 magnets provided on the rotor are magnetized in the axial direction while the permanent magnets
4 arranged on the stator are magnetized in the radial direction or vice versa.

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1 31. (New) A rotational arrangement in accordance with claim 23 wherein
2 control windings are provided in the stator in order to control the spatially modulated unipolar
3 bias magnetic flux.

1 32. (New) A rotational arrangement in accordance with claim 23 wherein the
2 stator producing the magnetic journalling of the rotor is designed to be substantially ring-shaped
3 and surrounds the ring or disc-shaped rotor, with the stator plane and the rotor plane coinciding
4 and forming the bearing plane; and wherein the stator comprises at least one further ring or disc-
5 shaped motor stator which is arranged in a motor plane parallel to the bearing plane.

1 33. (New) A magnetically journalled rotational arrangement comprising a
2 substantially disc-shaped or ring-shaped magnetically journalled rotor and
3 a stator comprising:

4 means for generating a field, wherein said field produces rotation of the
5 rotor having means for generating a unipolar bias magnetic flux spatially modulated when
6 viewed in the circumferential direction; and

7 a plurality of permanent magnets arranged on both sides of the rotor to
8 cooperate with the means provided on the rotor generating the spatially modulated bias magnetic
9 flux and producing or reinforcing the magnetic journalling of the rotor,
10 wherein the stator plane and the rotor plane coincide and form a bearing
11 plane, and

12 wherein the stator producing the magnetic journalling of the rotor
13 surrounds the ring or disc-shaped rotor, and

14 the stator further comprises two ring-shaped motor stators, wherein the
15 first motor stator is arranged in a first motor plane parallel to the bearing plane on the one side of
16 the bearing stator and the second motor stator in a second motor plane parallel to the bearing
17 plane.

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1 34. (New) A magnetically journalled rotational arrangement comprising a
2 substantially disc-shaped or ring-shaped magnetically journalled rotor and
3 a stator comprising:
4 means for generating a field, wherein said field produces rotation of the
5 rotor having means for generating a unipolar bias magnetic flux spatially modulated when
6 viewed in the circumferential direction; and
7 a plurality of permanent magnets arranged to cooperate with the means
8 provided on the rotor generating the spatially modulated bias magnetic flux and producing or
9 reinforcing the magnetic journalling of the rotor,
10 wherein the stator plane and the rotor plane coincide and from a bearing
11 plane, and
12 wherein the stator producing the magnetic journalling of the rotor
13 surrounds the ring or disc-shaped rotor, and
14 the stator further comprises a disc-shaped motor having a disc rotor
15 winding and arranged in a motor plane parallel to the bearing plane.

1 35. (New) A rotational arrangement in accordance with claim 23 wherein the
2 means for the production of the field which effects the rotation of the rotor comprises a rotatable
3 drive which can be magnetically coupled to the rotor and the axis of rotation of which coincides
4 with the axis of rotation of the rotor.

1 36. (New) A rotational arrangement in accordance with claim 35 wherein the
2 drive comprises permanent magnets which are magnetized in the axial direction.

1 37. (New) A rotational arrangement in accordance with claim 35 wherein the
2 drive comprises permanent magnets which are magnetized in the radial direction.